

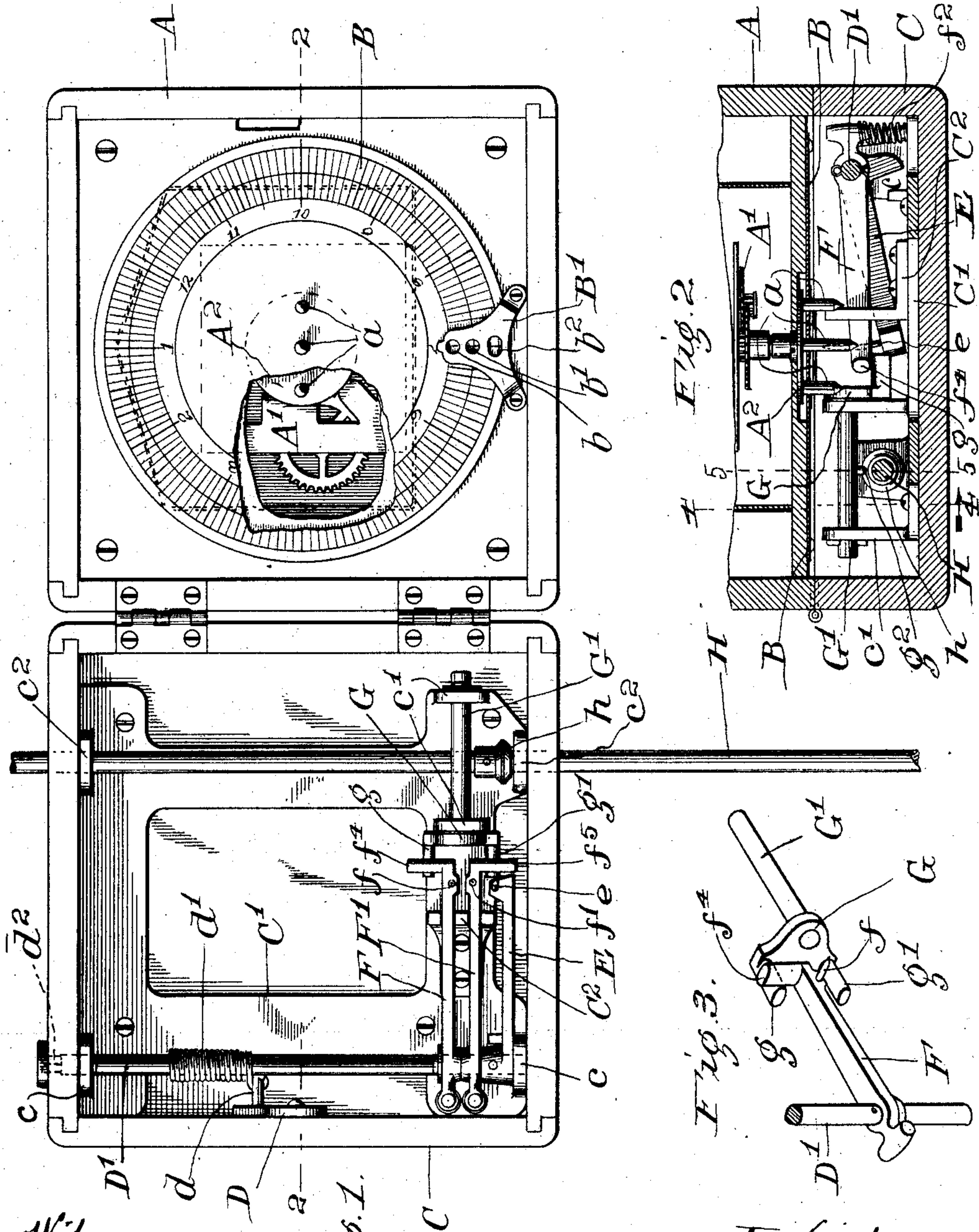
No. 883,473.

PATENTED MAR. 31, 1908.

A. A. NEWMAN.
TIME RECORDER.

APPLICATION FILED JAN. 12, 1906.

2 SHEETS—SHEET 1.



Witnesses:
K. M. Cornwall
J. E. Sherry.

Fig. 1.

Inventor:
Abraham A. Newman,
by R. W. Miles & Sherry,
Attys.

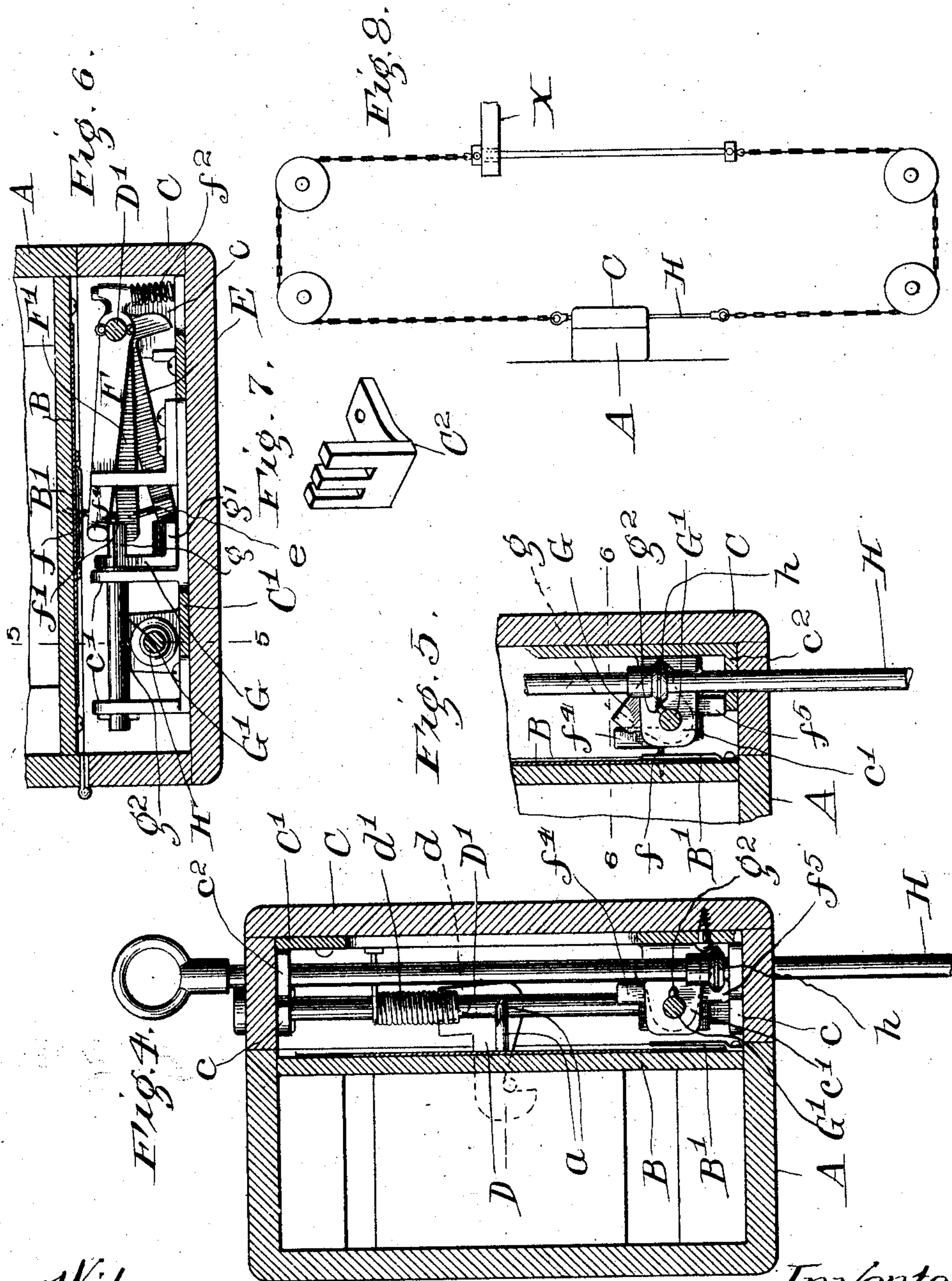
No. 883,473.

PATENTED MAR. 31, 1908.

A. A. NEWMAN.
TIME RECORDER.

APPLICATION FILED JAN. 12, 1906.

2 SHEETS—SHEET 2.



Witnesses:
A. M. Cornwall
J. E. Sherry.

Inventor:
Abraham A. Newman
by Return, Willet Sherry
Atty.

UNITED STATES PATENT OFFICE.

ABRAHAM A. NEWMAN, OF CHICAGO, ILLINOIS.

TIME-RECORDER.

No. 883,473.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed January 12, 1906. Serial No. 295,700.

To all whom it may concern:

Be it known that I, ABRAHAM A. NEWMAN, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Time-Recorders, of which the following is a specification.

My invention relates to improvements in time recorders, and is fully described and explained in this specification and shown in the accompanying drawings, in which

Figure 1 is a front view of my improved device, the box thereof being opened to show the interior; Fig. 2 is a section in the line 2—2 of Fig. 1, with the box closed; Fig. 3 is a perspective view of one of the markers and the adjacent parts; Fig. 4 is a section in the line 4—4 of Fig. 2; Fig. 5 is a section in the line 5—5 of Figs. 2 and 6, showing the actuating rod and the parts operated thereby in a different position; Fig. 6 is a section in the line 6—6 of Fig. 5; Fig. 7 is a perspective view of the marker-guide; and Fig. 8 is a diagrammatic view showing the connection of the device when in use.

Referring to the drawings, A, is the bottom portion of a box, the same containing a clock-movement, A¹, upon the hour arbor of which is secured a plate, A², having three upwardly-projecting points, *a*, which serve to hold and position a paper-dial, B, subdivided into hours and fractions thereof, as illustrated. The edge of this dial runs under a dial guide-plate, B¹, having three holes, *b*, *b*¹, *b*². The clock-movement in its operation will obviously rotate the dial, B, causing the various points on the circumference thereof to pass the dial guide-plate, B¹, in succession.

C, indicates the cover of the box, A, and the same has in its top a frame, C¹, of metal which serves to support the various operating devices hereafter to be described. The box can be closed and locked shut by a latch, D, pivoted to the edge of the cover furthest removed from the hinge thereof; and this latch can be operated by a pin, *d*, on a rock-shaft, D¹, journaled between ears, *c*, on the frame, C¹. This rock-shaft is normally spring-pressed to the left, as viewed in Fig. 2, by a spring, *d*¹, and can be rotated against the force of the spring by means of a key, which engages a squared end, *d*², (dotted lines Fig. 1) on said shaft, said end projecting through the side wall of the cover. The opposite end of the shaft, D¹, bears an opening and closing marker, E, in the form of a

radial arm, rigidly secured to said shaft, said marker being provided with a point, *e*, which is adapted to pass through the perforation, *b*², in the dial guide-plate, B¹, when the shaft, D¹, is rocked as aforesaid.

In practice, a fresh dial is placed upon the device every day, said device being set by turning the dial-plate, A², until the proper number on the dial appears through the perforation in the dial guide-plate. If now an effort be made to close the box, it will be found that the latch, D, engages with a solid portion of the box proper making such closing impossible. The cover can only be shut by turning the shaft, D¹, with a suitable key and this will swing the opening and closing marker downwardly, so that as the cover is closed, this marker will perforate the dial along its outer edge. When rotary pressure upon the shaft is released, the spring will carry the opening and closing marker back, leaving the dial free to move. By the same operation the opening and closing marker will be swung down when the box is opened so as to perforate the dial. In this way a perfect check is kept on any tampering which may be attempted with the instrument, for the dial will show not only the record proper, which is made as will hereafter be set forth, but will also show a record of the opening and closing of the box.

The remaining indications on the dial are made by two markers, F, F¹, having pins, *f*, *f*¹, like the pin, *e*. These two markers are rotatably journaled on the shaft, D¹, and the marking ends are spring-pressed away from the dial by springs, *f*². A guide, C², assists in guiding the markers in their movement toward and away from the dial-plate. The markers, F, F¹, have laterally-extending ends, *f*⁴, *f*⁵, (Fig. 2) which are located immediately above pins, *g*, *g*¹, mounted on a plate, G, secured to the end of a rock-shaft, G¹, journaled between ears, *c*¹, on the frame, C. The rock-shaft, G¹, is provided with a downwardly-extending pin, *g*², which is in the path of a circular collar, *h*, on a sliding rod, H, which extends through the walls of the cover and is supported by ears, *c*², on the frame, C¹. It will be obvious that this rod, H, can be moved a considerable distance longitudinally, *i. e.* the entire inside width of the box cover. In each traverse, the collar, *h*, will strike the pin, *g*², rocking the shaft, G¹, and causing one of the pins, *g*, *g*¹, to swing into contact with the laterally-extending ends,

f^4, f^5 , on the markers, F, F^1 . This movement of the markers will force the corresponding pins, f, f^1 , through the dial, thereby causing a record to be made. When the shaft, 5 H , is moved downward (as viewed in Fig. 1) the marker, F^1 , will operate and when moved upward the marker, F , will operate.

My device is particularly advantageous for use in connection with slowly-moving 10 machinery, such as oil presses. In such devices, it is commonly preferable for the machinery to perform a complete traverse in a given length of time. The laborers who work on such devices are frequently paid by 15 the piece or by the number of traverses the machine makes, and the result is that the tendency is for them to cause the machine to operate more rapidly than it ought to operate to produce the best results. My device can 20 be rigged as illustrated in Fig. 8, with the rod, H , connected to a moving element of a device, such, for instance, as the part marked, X , and it will then record automatically the exact time when each traverse of the moving 25 parts was completed. Such a device can be used in a large number of situations, but is particularly desirable in this connection.

In the foregoing description I have described the device for the most part as if the 30 bottom of the box, *i. e.* the portion which contains the clock-movement were in a horizontal position, and as if the cover were closed thereon, so that the portions adjacent to the clock-movement are in the lower por- 35 tion of the cover, and the portions farthest removed therefrom in the upper portion of the cover. It will be obvious however, that these terms "upper" and "lower", "top" and "bottom", etc. are merely relative, for 40 the device can operate equally well in any position, and, in fact, will generally be placed as illustrated in Fig. 8.

I realize that considerable variation is possible in the details of this construction, 45 without departing from the spirit of the invention, hence I do not intend to limit myself to the specific form herein shown and described.

I claim as new and desire to secure by 50 Letters Patent:—

1. The combination with a reciprocating device having long movements which it is desired to record of a second device capable of shorter reciprocations, a clock operated 55 record-carrying device, two recording devices arranged to produce different records on a sheet carried by said record-carrying device,

means whereby the second reciprocating device produces alternate operations of the recording devices as it is reciprocated, and 60 means of connection between said two reciprocating devices whereby they complete their reciprocations at approximately the same time.

2. The combination with a reciprocating 65 device having long movements which it is desired to record, of a second device capable of shorter reciprocations, a clock operated record-carrying device, two recording devices arranged to produce different records 70 on a sheet carried by said record-carrying device, means whereby the second reciprocating device produces alternate operations of the recording devices as it is reciprocated, and means of connection between said two 75 reciprocating devices whereby said first device moves throughout a part of its stroke without affecting said second device and then moves the same for a comparatively short stroke. 80

3. The combination with a reciprocating device having long movements which it is desired to record, of a second device capable of shorter reciprocations, a clock operated record-carrying device, means for marking 85 in a distinguishable manner on a sheet carried by said record-carrying device the successive reciprocations of said second reciprocating device, and means of connection between said two reciprocating devices whereby they 90 complete their reciprocations at substantially the same time.

4. The combination with a clock-movement and means operated thereby for carrying a record-dial, of two independent mark- 95 ers arranged to produce records in different radial positions on the record-dial, a rock-shaft, projections carried by the rock-shaft and engaging the markers to move one of them when the rock-shaft is turned in either 100 direction, a second projection on the rock-shaft, a reciprocating rod, and means on the rod engaging said second projection on the rock-shaft to rock it in opposite directions as the rod is reciprocated. 105

In witness whereof I have signed the above application for Letters Patent at Chicago, in the county of Cook and State of Illinois, this 26th day of December A. D. 1905.

ABRAHAM A. NEWMAN.

Witnesses:

TOREY ROSS,
RUSSELL WILES.